REMARKS

Claims 1-5 and 7-28 remain in connection with the present application, with claims 1, 2, 7, 16, 17, 18, 27, and 28 being independent.

Allowable Subject Matter

Initially, Applicants wish to thank the Examiner for the indication that claims 2, 3, 16, 17, 27, and 28 are allowed in connection with the present application, and that claims 9-13 and 20-24 contain allowable subject matter and would be allowable if rewritten in independent form. Based on the Examiner's indication, each of independent claims 2, 16, 17, 27, and 28 have been allowed, and thus only claims independent claims 1, 7, and 18 remain rejected. Although the Examiner has only indicated the allowability of certain ones of the independent claims, Applicants believe that each of the independent claims, and thus each of the claims pending in connection with the present application, is allowable for the following reasons.

Prior Art Rejections

The Examiner has rejected independent claims 7 and 18 (and several dependent claims) under 35 U.S.C. § 103 as being unpatentable over Daines (U.S. Patent No. 6,192,422) in view of Grochowski (U.S. Patent No. 6,205,524). Further, the Examiner has rejected independent claim 1 (and other dependent claims) under 35 U.S.C. § 103 as being unpatentable over Daines in view of Grochowski, and further in view of Ogimoto (U.S. Patent No. 6,032,205). These rejections are respectfully traversed for at least the following reasons.

Daines is directed to a full duplex repeater for a collision-free transmission of data packets between nodes of a local area network. The repeater includes a plurality of ports, with

each of the ports including an input buffer and an output buffer. As admitted by the Examiner, Daines includes an input buffer which transfers stored data to a corresponding output buffer of a selected one of the other of the ports and **thus fails to teach or suggest at least one crossbar including N ports, with the ports including N-1 output buffers, each corresponding to another of the N-1 ports, as set forth in various ways in each of independent claims 1, 7, and 18 of the present application.** Although the Examiner attempts to combine the teaching of Daines with that of Grochowski, Applicants respectfully submit that even assuming *arguendo* that they could be combined (which Applicants do not admit), Grochowski still fails to make up for at least the aforementioned deficiency of Daines as will be apparent from the following.

As explained in the interview, one aspect of the present application is directed to at least one crossbar which includes N ports, wherein each one port of the crossbar comprises N-1 output buffers each corresponding to an another one of the N-1 ports. One exemplary embodiment of this is shown in Figure 2 of the present application, which includes N ports numbered 16 (for example, four ports as shown in the example of Figure 2), with each port including N-1 output buffers 22 (in the example of Figure 2, three output buffers). Each of the N-1 output buffers correspond to one of the other ports (in the example shown in Figure 2, the port 16 corresponding to switch A includes three output buffers corresponding to ports B, C, and D; the port 16 corresponding to switch D includes three output buffers corresponding to ports C, B, and A; etc.). As such, each crossbar includes a number of ports, with each port including a number of output buffers which is one less than the total number of ports (three output buffers and four ports as shown in the example of Figure 2), each output buffer corresponding to one of the other ports.

As admitted by the Examiner, at least such a feature is not taught or suggested by Daines, which include a single output buffer and a single input buffer for each port. Similarly, in Grochowski, which is directed to a process or pipeline and not any type of local area network as taught in Daines, a queue 15 has N columns 33 that correspond to N parallel execution ports or units as indicated by the Examiner (see col. 7, lines 53-55 as cited by the Examiner). Thus, Grochowski does not mention any type of inclusion of **N ports including N-1 output buffers**, since the queue 15 is mentioned as including both N columns and N corresponding parallel execution ports. There is no teaching of N-1 anything. Only a one to one correspondence is mentioned. **Accordingly, Grochowski fails to makeup for at least the aforementioned deficiencies of Daines** and thus the alleged reference combination fails to render each of independent claims 1, 7, and 18, and all claims dependent thereon, obvious.

Further, Grochowski is directed to a processor pipeline for executing instructions and for replaying the instructions in response to determining that the instructions encountered some type of execution problem. Thus, a type of prediction or fake execution can occur, wherein instructions with an execution problem can then be replayed or re-executed when problems occur. **The device is for processing problems in a processor pipeline, and thus has nothing to do with transmission of data packets between those of a local area network as is taught by Daines.**

As such, even assuming *arguendo* the Grochowski and Daines could be combined, which Applicants do not admit, even if Grochowski did teach or suggest some type of correspondence other than one-to-one, this would only be applicable to the various aspects discussed in Grochowski, such as pipeline processors, replaying or re-executing instructions to avoid

execution problems, etc. **The teachings of Grochowski provide no type of teaching or suggestion for:**

1) including its teachings relating to pipeline processors and re-executing instructions in a system with a crossbar including a plurality of ports;

2) including a plurality of N-1 of port output buffers for each of plurality of ports of at least one crossbar;

3) nor including output buffers which each correspond to one of N-1 other ports, as claimed in various ways in each of independent claims 1, 7, and 18 of the present application.

Grochowski has nothing to do with crossbars of a data network and/or inclusion of a certain number of port output buffers for each port of a crossbar. As shown the in the example of Figure 2 of the present application, four output ports are provided for the crossbar, with each of the four output ports including three output buffers, each of the output buffers corresponding to one of the other ports. No such teaching or suggestion of anything like this is present in Daines as admitted by the Examiner, and no such teaching or suggestion is provided in Grochowski. Grochowski teaches a queue having N columns 33 that correspond to N parallel execution ports in a parallel processor, and thus does not teach or suggest a plurality of N-1 port output buffers for each of a plurality of N ports of a crossbar, let alone such port output buffers corresponding to one of said N-1 other ports as set forth in various ways in each of independent claims 1, 7, and 18. Accordingly, even assuming *arguendo* that the teachings of Grochowski could be combined with those of Daines, which is not admitted for the reasons below, the reference combination still fails to meet at least the aforementioned limitation of claims 1, 7 and 18. Thus, the rejections should be withdrawn.

Still further, even assuming *arguendo* that the teachings of Grochowski could makeup for the deficiencies of Daines, which Applicants do not admit for at least the aforementioned reasons, **the Examiner has still failed to meet his burden of providing proper motivation for combining the teachings of Grochowski with that of Daines** as required by the Court of Appeals for the Federal Circuit (CAFC). To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the Applicants (some "instructions for putting pieces together, not just the pieces). The motivation, suggestion, or teaching may come explicitly from statements in the prior art, from the knowledge of one ordinary skill in the art, or in some cases, from the nature of the problem to be solved. See *In re Dembiczak,* 50 USPQ 1614 (Fed. Cir. 1999).

In the present situation, the Examiner has clearly recognized the deficiency in Daines, and has merely attempted to find the missing piece of this puzzle, without finding the necessary "instructions" for putting the piece together with the remainder of the puzzle. **In other words, the Examiner has not found or provided any indication as to why the two pieces of prior art should be combined**, which is required to establish *prima facie* case of obviousness under 35 U.S.C. § 103. See *Dembiczak,* 50 USPQ 2d at 1617. Broad conclusary statements standing alone, as provided by the Examiner, are not "evidence". The Examiner has merely utilized Applicants' invention, in hindsight, to provide the teaching or suggestion for combining the references. This is clearly an improper use of hindsight.

Accordingly, in summation, Applicants note that the Examiner has failed to meet his burden of creating a *prima facie* case of obviousness.

1) The Examiner has clearly ignored limitations present in each of independent claims 1, 7, and 18, wherein such limitations are clearly are not taught or suggested by either of the prior art references to Daines or Grochowski.

2) Further, the Daines and Grochowski systems are two completely different systems which would not lead anyone of ordinary skill in the art to combine their teachings or suggestions in that one deals with the problems of a processor pipeline, and the other deals with the problems of transmitting data packets between nodes of a local area network.

3) The prior art reference to Grochowski does not makeup for the admitted deficiencies of Daines, and further includes teachings which are not in anyway taught or suggested to be combined with the teachings of Daines.

4) Even assuming *arguendo* that there might be some reason to try some of the aspects of Grochowski in a system such of that of Daines, that is still not the proper standard for determining obviousness. There must be more than some possibility of trying certain teachings; there must be some reason, suggestion, or motivation provided somewhere, which would lead one of ordinary skill in the art to modify the teachings of one reference to include the teachings of another. No such reason, suggestion, or motivation has been provided by the Examiner.

Accordingly, for at least such reasons, Applicants respectfully submit that all outstanding prior art rejections must be withdrawn and that each of independent claims 1, 7, and 18, and all claims dependent thereon, must be passed to allowance.

With regard to independent claim 1, the Examiner has additionally attempted to combine the teachings of Daines and Grochowski with those of Ogimoto. For the reasons previously presented in the interview and as admitted by the Examiner, Ogimoto, even assuming *arguendo* that it could be combined with either one or both of Grochowski and Daines which Applicants do

not admit, would still fail to makeup for the previously mentioned deficiency of the aforementioned Grochowski and Daines references. Thus, for reasons similar to those previously presented, Applicants respectfully submit that independent claim 1 and dependent claims 4 and 5, are allowable over the prior art, taken either singularly or in combination. Thus, withdrawal of the rejection is respectfully requested.

Finally, the Examiner has also rejected dependent claims 15 and 26 under 35 U.S.C. § 103 as being unpatenable over the alleged combination of Daines, Grochowski, and Ogimoto. Accordingly, for reasons previously provided, and for reasons previously provided regarding the corresponding independent claims, this rejection must also be withdrawn and dependent claims 15 and 26 must also be allowed.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of all outstanding objections and rejections and allowance of each of claims 1-5 and 7-28 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

In necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

Dated: August 29, 2003

By: _____
Donald J. Daley, Reg. No. 34,313

DJD/bof

Please address all correspondence to:

MARVELL SEMICONDUCTOR, INC.
Intellectual Property Department
700- First Avenue, MS #509
Sunnyvale, CA 94089